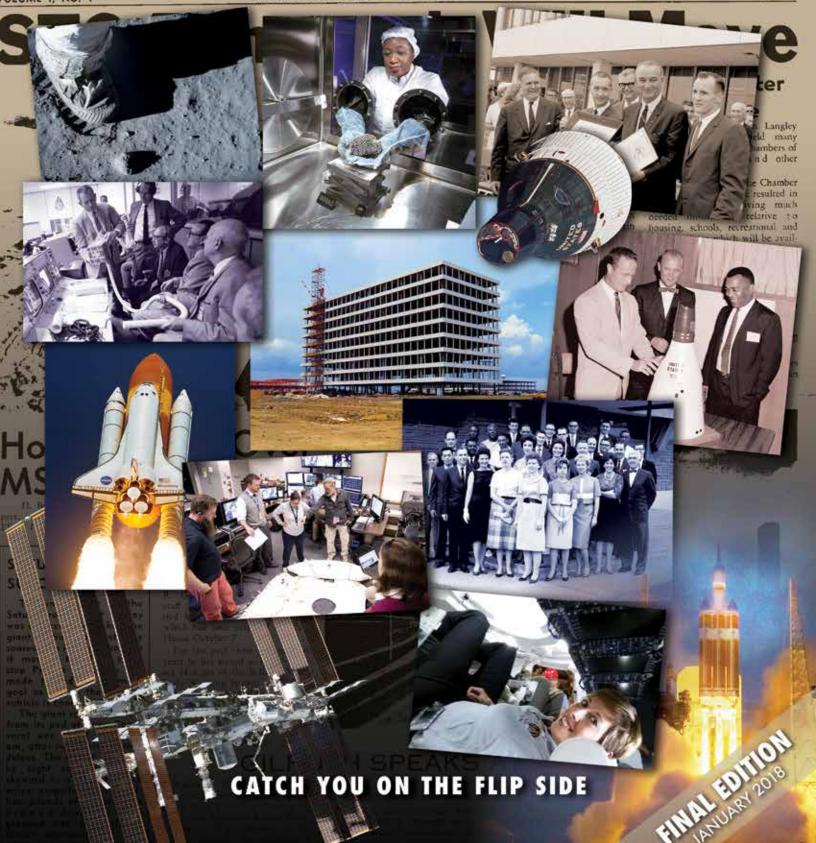
Space



OLUME I, NO. 1

MANNED SPACECRAFT CENTER, LANGLEY AFB, VA.

**NOVEMBER 1, 1961** 



## The director of JSC

### **Ellen Ochoa**



WHAT A YEAR 2017 HAS BEEN HERE at NASA's Johnson Space Center! I'm incredibly thankful for the remarkable team at JSC and all who support it—our civil servant employees, contractors, partners, students and interns. Your excellence, dedication and passion for our work never ceases to amaze me, and your accomplishments continue to inspire people around the world.

For the sixth year in a row, NASA has been named the number one large agency in the "Best Places to Work in Government" rankings by the Partnership for Public Service. This designation is a testament to the dedicated efforts of all our employees at JSC who work each day to lead human space exploration.

This year was filled with record-setting achievements both on and off the planet. We supported more than 120 new U.S. research investigations aboard the International Space Station, published preliminary results from the one-year mission, welcomed a new class of astronauts—the Turtles—to Houston, successfully completed the Orion Exploration Mission-1 crew module power-on testing, received the Boeing Starliner Mission Simulator in Building 5, participated in Super Bowl LI, witnessed a total solar eclipse, coped with the unimaginable impact of Hurricane Harvey and celebrated an Astros World Series win! NASA astronaut Peggy Whitson broke multiple records during an extended mission aboard the station, becoming the U.S. astronaut who has spent the most total time in space (665 days during three missions).

The space station continues to be used to inspire future generations, with a special focus on a Year of Education on Station featuring astronauts and former classroom teachers Joe Acaba and Ricky Arnold and their crewmates. Engineers continue to work on Orion to ensure the spacecraft and procedures being developed for crewed flights are optimized to support astronauts and deep-space missions. NASA's Commercial Crew Program continues to work through challenges to prepare for its first flights in 2018. We unveiled a new building on campus dedicated to our Human Health and Performance Laboratories, and the James Webb Space Telescope completed cryogenic testing at JSC as it readies for assembly into a single spacecraft ahead of launch in 2019.

As the new year approaches, we are excited to see what amazing paths lie ahead. One milestone I'm particularly excited about is the center's hosting of the Orion Ascent Abort-2 (AA-2) flight hardware. The hardware, which will be outfitted for flight here, is an exciting collaboration between Orion, JSC Engineering and the Advanced Exploration Systems Office at NASA Headquarters. The flight hardware will be coming and going from the recently updated Space Vehicle Mockup Facility south high bay as it's prepped and readied for launch in April 2019. AA-2 will verify that Orion's Launch Abort System can steer the crew module to safety in the event of an issue with a Space Launch System rocket, when the spacecraft is under the highest aerodynamic loads during ascent.

Finally, with a new year comes a new approach to internal communications. I've made a variety of changes since I've become center director to ensure the best use of our resources. One of the tenets of JSC 2.017 is "Do Things Differently." As such, this is the last issue (print or PDF)

of the newsmagazine known as *Roundup*, which JSC team members have known since the 1960s. The content isn't going away—it's taking a new form and function in a digital environment.

We're refocusing to include more human-interest articles, wide-ranging types of digestible information (social media coverage, photo galleries, new and improved video content, infographics) and all the news employees want—tailored to your computer, smartphone or tablet. I'm excited to move JSC internal communications into the 21st century, and will continue to challenge our team to improve the quality and delivery of information to JSC employees. You can learn more of the details here:

https://www.nasa.gov/roundup

As always, stay up-to-date with all things Johnson via: my Twitter account, @Astro\_Ellen, at: https://twitter.com/Astro\_Ellen

Cheers to 2018!

Ellen Ochoa

#### **NEW SPACE POLICY DIRECTIVE REVISITS MOON**



Members of the National Space Council are seen during the council's first meeting on Oct. 5, 2017, at the Smithsonian National Air and Space Museum's Steven F. Udvar-Hazy Center in Chantilly, Virginia. The National Space Council, chaired by Vice President Mike Pence, heard testimony from representatives from civil space, commercial space and national security space industry representatives.

On Dec. 11, 2017, President Trump signed Space Policy Directive 1 at the White House. This directive marks a change in national space policy that provides for a U.S.-led, integrated program with private sector partners for a human return to the Moon—followed by missions to Mars and beyond.

The policy calls for the NASA administrator to "lead an innovative and sustainable program of exploration with commercial and international partners to enable human expansion across the solar system and to bring back to Earth new knowledge and opportunities." In addition to the direction to plan for humans returning to the Moon, the policy also ends NASA's existing effort to send humans to an asteroid. The policy grew from a unanimous recommendation by the new National Space Council after its first meeting.

# new(s) evolution CATHERINE RAGIN WILLIAMS

THE BIGGEST NEWS STORY OF THE DAY? The Roundup and all NASA Johnson Space Center's internal communications channels are changing.

Chances are, if you're reading this on a printed page, someone else has read the same news before you—or some version of it—on a digital platform. Most likely, it's one of our platforms, and that's a good thing. But, if you're reading a tangible product, your news is ... a bit aged.

That's one challenge Johnson's *Roundup* team is working to solve with an overarching internal communications revamp. The printed magazine goes the way of the dinosaur, but many of the digital news sources you already know and love are integrating in a more cohesive fashion to give you more news-and fresher news-under one brand that's been a constant since the 1961: Roundup.

Before we talk about the future, let's revisit the past, where print was king and the *Roundup* newspaper was really the only way you knew what other people around the center were doing to advance human space exploration.

#### **HOW ON EARTH ...?**

The first issue of *Roundup* was issued out of Langley Air Force Base in Virginia for Houston's Manned Spacecraft Center employees (that would be us-later renamed Johnson Space Center). The paper had a folksy charm, presumably fit for the cowboy culture of the sparsely populated Bayou City, and even featured a lasso "rounding up" the masthead. It had a coarse feel, with long pages one had to hold at





arm's length to read comfortably. As labors of love go, it was extremely labor intensive thanks to the rudimentary printing and publishing technologies of the time.

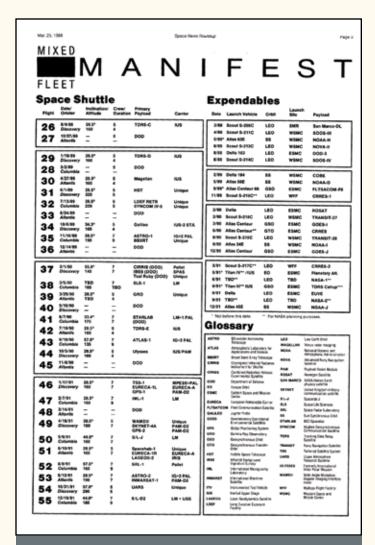
Even as late as the 1980s, when News Chief Kelly Humphries of the Communications and Public Affairs Office (CPAO), part of Johnson's External Relations Office, was a reporter turned editor for the paper, putting Roundup together was a time-consuming, exact science.

Computerization of Public Affairs was still lagging, but Humphries had access to a mini computer called the NBI, which used a UNIX-like system.

"You had a terminal on your desk, but no actual PC computer, and you could switch back and forth between two different sessions that could be operated simultaneously," Humphries said. "The way we would do the paper at that time was with offset type, or cold type."

After editing the stories, he would print them as final copy on paper. On deadline day, Humphries would hop into a government van and head to the publishing contractor. There, the stories had to be re-keyed on their typesetting machine, which would spit out columns of type. The columns would then be waxed down on a layout sheet.

"When we got all that done, we would do a lot of trimming with razor blades to get everything to fit properly," Humphries said. Images, too, were arduous. "You'd have to shoot a negative of the picture so you could paste that into the layout, and then it would get made into a plate," Humphries said.



Manifests were published in the *Roundup* to keep employees cognizant of Space Shuttle Program flights and details—before internet provided that information.

To millennials, this may all sound reminiscent of pioneer days. But remember, it was only the 80s.

#### A ONE-SIZE-FITS-ALL APPROACH

Even in 1986, Roundup "was an every-other-week publication between four and eight pages, and it was one of the key ways that we had to share information of what was going on within the agency with employees," Humphries said. "Back then there were no fax machines, there was no internet, there was no email. We were using rotary dial telephones in the newsroom, so the newspaper really was an important way to get information out to folks."

Roundup was operated just like any other industry newspaper, too. "It had everything from front-page stories that were news-oriented to feature stories that highlighted employee activities and projects, and then you'd have the personnel stories—the people who had gotten moved or promoted—things like that," Humphries said. "We even had classified ads: the Swap Shop. It was really popular, because people would pick up the paper to look for some item they were looking to buy or a condo they were looking to rent at Galveston beach and, if they weren't careful, they might actually read something else and learn

about what was going on around them."

In the late 1980s, *Roundup* became a weekly paper in response to the post-Space Shuttle *Challenger* accident return to flight.

"The director at the time, Aaron Cohen, had wanted to increase internal communications, and one of the ways they saw to do that was to increase the frequency of the *Roundup*," said James Hartsfield, manager of CPAO. "At that time, there was no other way to internally communicate, really. Everyone had a hard paper box, and you got a copy of the *Roundup* in your mailbox. It went to every employee."

"We actually borrowed the shuttle scheduling computer, ARTEMIS, to diagram the *Roundup* production process and prove we could put out a weekly," Humphries said. "One of the key technology advances was being able to send the stories to the off-site printer electronically—with a 'speedy' 300-baud phone modem."

At its peak, circulation reached 18,000.

"The *Roundup* was kind of the flagship for the human spaceflight side of the agency in terms of sharing news about what was going on," Humphries said.

The Public Affairs team kept up the hectic, weekly pace for about 10 years. But time and technology never stand still for long. Changes were brewing.

#### MORE COMMUNICATIONS CHANNELS, MORE OPTIONS

In the 90s, the popularity of the internet was starting to shift old habits.

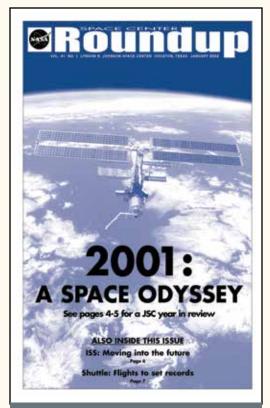
"[Roundup] moved back to biweekly, then monthly," Humphries said.
"The needs of the center changed, and it became less important for everybody to have that weekly because of the advances in the number of channels you had to get news and information out. A part of that led to the start of the whole use of internet."

The start of the space shuttle web was one of the projects that diverted Humphries from the *Roundup*, and it was a mammoth task. Though NASA's Marshall Space Flight Center first covered a shuttle



mission for the World Wide Web, it soon became Johnson's main duty as the hub of the program.

"We kind of bootstrapped to share information a lot like we shared it in the *Roundup*, only knowing that it was going out not just to employees, but to the world," Humphries said. "In a way, the need to distribute the information so broadly led to adopting the internet. Basically, you were using capabilities that the center had started for research and engineering for public information distribution purposes. [It] set the stage for being able to take the *Roundup* to a digital form—the



Cover of January 2002 Roundup demonstrates yet another new style iteration as the newspaper becomes monthly.

next evolutionary step in our mechanisms for communicating to employees."

Through the years, the center's news has evolved from being transported via fax to even over the phone via an Employee Information Service phone recording, which Humphries remembers vividly, along with the 7 a.m. work arrival time the method required.

"Every day, [Hartsfield] and I or whoever else would pull the headlines out

from the *Roundup* and the first lead paragraph and read those into the recording system," Humphries said. "Anyone who called would listen to that recording. That was also a way people could learn whether a shuttle flight had been delayed."

Through all the growing pains, *Roundup* remained a consistent means of communicating to the Johnson team.

"We were evolving the technology for communicating to mass audiences just as the rest of the world was," Humphries said.

And that brings us to today. The evolution continues—online.

#### LIVING LEGACIES

"It's great that today there are so many additional ways to get information," Hartsfield said. "When you compare it to back then, it's information overload. You can get news about what's going on at the center in so many places, like social media, websites, the emails that you get."

The *Roundup* rebrand will consolidate and share information between various online mediums so that however you want to receive your newsbe it through online feature stories, Johnson's internal home page, a daily email blast or consolidated e-newsletter from Director Ellen Ochoa-the information is packaged and delivered how you want to see it. The new doesn't take away from the old, although how Roundup used to be was perfect for its heyday.

"Nostalgically, it was nice because then you did have one centralized place [for news], and everybody really read that," Hartsfield said.

What worked then, admittedly, cannot be replicated today—"and you wouldn't want to," Hartsfield added.

Hartsfield believes that while technology and needs are ever evolving, one thing will never change: Johnson employees' interest in their colleagues and the projects and programs they strive to advance.

"People are always still going to be interested in their co-workers or about their workplace, so I think the rebranding effort is a great thing," Hartsfield said. "It really makes the information more available to people, in more places."

Can a brand that is alive and well—and growing—have a legacy? Perhaps.

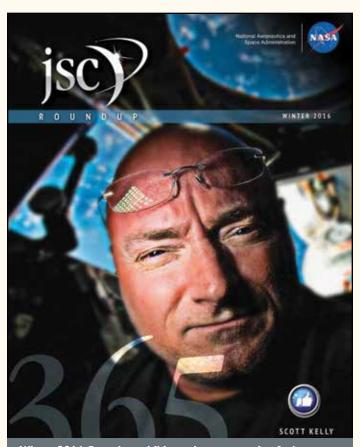
"I hope that if there's a legacy, it'd be that some of the folks who have been written about have a clipping or two somewhere, and it mattered enough to them that they saved it," Hartsfield said.

Humphries recalls the star power of being featured in the newspaper and subsequent magazine. "If you made it into the *Roundup* for your project, you were pretty hot stuff back in the day. It could really help your career. A lot of the folks who started out on smaller projects got noticed because we wrote about it, and that helped them progress and become even more important players in human spaceflight."

You can still make it in the news—just maybe not in print, exactly. But there are still printers around site in 2018, so maybe "printed news" isn't yet an oxymoron.

"[Roundup has] been in continual evolution, whether people have recognized that or not," Hartsfield said.

While this is the last print issue, the content is here to stay, in a digital form for today's digital world.



Winter 2016 Roundup exhibits a glossy, magazine feel. This issue featured astronaut Scott Kelly's historic one-year mission aboard the International Space Station.

# THE YEAR IN REVIEW

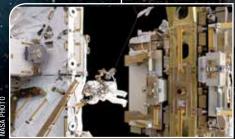
#### **JANUARY**

#### MARCH

#### MAY



JAN. 24: In a lab at NASA's Johnson Space Center, engineers simulate conditions that astronauts in spacesuits would experience when the Orion spacecraft is vibrating during launch atop the agency's powerful Space Launch System rocket. This series of tests will help human factors engineers assess how well the crew can interact with the displays and controls they will use to monitor Orion's systems and operate the spacecraft when necessary.



MARCH 24: Flight Engineer Thomas
Pesquet of ESA (European Space Agency) is
seen floating outside the International Space
Station during a spacewalk. Pesquet and
Expedition 50 Commander Shane Kimbrough
of NASA took part in the the six-hour-and-34minute excursion, where they disconnected
cables and electrical connections on the
Pressurized Mating Adapter-3 to prepare for
its robotic move on March 26.

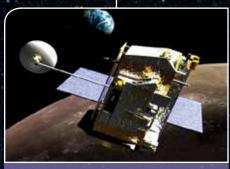


**MAY 16:** Two CubeSats are seen moments after being ejected from a small satellite deployer outside the space station's Kibo laboratory module. More than a dozen CubeSats were ejected into Earth orbit to study Earth and space phenomena for the next one to two years.

#### **FEBRUARY**

#### **APRIL**

#### JUNE



**FEB. 7-8:** NASA's Astromaterials Research and Exploration Science Division hosts planetary scientists and lunar experts from the Lunar Reconnaissance Orbiter at Johnson to decide how to operate the NASA spacecraft that has been in lunar orbit since 2009 to achieve the science goals of its upcoming Cornestone Mission, which will collect new data from the Moon.



APRIL 22: Expedition 51 Flight Engineer Thomas Pesquet of ESA photographs Orbital ATK's Cygnus spacecraft as it approaches the International Space Station. The spacecraft's arrival brought more than 7,600 pounds of research and supplies to support Expeditions 51 and 52.



JUNE 7: During a visit to Johnson, Vice President Mike Pence congratulates NASA's 12 new astronaut candidates. The 2017 astronaut candidate class—Kayla Barron, Zena Cardman, Raja Chari, Matthew Dominick, Bob Hines, Warren "Woody" Hoburg, Jonathan Kim, Robb Kulin, Jasmin Moghbeli, Loral O'Hara, Francisco Rubio and Jessica Watkins—were chosen from amid a record number of applicants.

#### JULY



**JULY 10:** Engineers watch as Chamber A's colossal door closes at Johnson, beginning the final cryogenic test that will prove the James Webb Space Telescope's readiness for deep space.

#### **SEPTEMBER**



**SEPT. 12:** The Soyuz MS-06 spacecraft launches with Expedition 53 crew members Joe Acaba of NASA, Alexander Misurkin of Roscosmos and Mark Vande Hei of NASA from the Baikonur Cosmodrome in Kazakhstan.

#### **NOVEMBER**



**NOV. 18:** The James Webb Space Telescope completes its final cryogenic test inside Chamber A. Here, engineers inspect the instrument after it underwent about 100 days of testing.

#### **AUGUST**



**AUG. 25:** NASA astronaut Jack Fischer photographed Hurricane Harvey from the cupola module aboard station as it intensified on its way toward the Texas coast. Though the hurricane devastated the Houston area, including many homes belonging to people in the Johnson family, the team pulled together to maintain human spaceflight operations and James Webb Space Telescope chamber testing during the perilous storm.

#### OCTOBER



**OCT. 3:** It's planting season on the space station, as crew members installed hardware to grow another crop of vegetables in space. NASA astronaut Joe Acaba prepares the Veggie facility for three different kinds of lettuce seeds as part of the VEG-03-D investigation.

#### **DECEMBER**



**DEC. 2:** The station, with a crew of six inside, is seen in silhouette as it transits the Moon at roughly five miles per second. Aboard are: NASA astronauts Joe Acaba, Mark Vande Hei and Randy Bresnik; Russian cosmonauts Alexander Misurkin and Sergey Ryanzansky; and ESA astronaut Paolo Nespoli.

# Record-breaking year sets the stage for dynamic missions of the future

After the holidays, NASA's Johnson Space Center may no longer be calm as activity ramps up for the major human spaceflight programs, but the future remains bright. This year, 2018, will welcome trailblazing moments for science, research and the imminent exploration of deep space thanks to milestones met in 2017 that have set the stage for the agency's path forward beyond low-Earth orbit and the Moon ... onward to otherworldly destinations ripe for discovery.

#### **International Space Station and Commercial Crew**

In 2017, 10 International Space Station crew members supported more than 400 research investigations in the unique microgravity laboratory to prepare for future deep space exploration and improve life on Earth, including research leading to new



NASA astronaut Randy Bresnik looks through the hatch of the station's Bigelow Expandable Activity Module (BEAM) on July 31, 2017. He shared this photo on social media on Aug. 2, commenting, "Ever wonder how you look when you enter a new part of a spacecraft? Well, this is it. First time inside the expandable BEAM module."

knowledge about combustion processes important to improving efficiency of gasoline-powered vehicles. All the investigations advance understanding in biology and biotechnology, Earth and space science, physical sciences, human research and technology development. In addition, the space station hosts ongoing investigations that enable us to observe Earth from space, study the fundamental physics of the universe such as dark matter and cosmic rays and demonstrate technology like the Bigelow Expandable Activity Module.

This past year's highlights aboard the International Space Station included a number of records where astronauts were working off the Earth, for the Earth. The arrival of the Expedition 53 crew marked the first long-term increase in crew size on the U.S. segment from three to four, allowing NASA to maximize time dedicated to research. Veteran astronaut Peggy Whitson broke multiple records during an extended mission to the station,

becoming the U.S. astronaut who has spent the most total time in space—tallying 665 days during three missions.

It was busy operationally, with heavy traffic and maintenance work transforming the station throughout the year. Station crew members conducted nine spacewalks to continue to prepare for the arrival of future commercial crew spacecraft and upgrade the orbiting laboratory's capabilities. During six missions in 2017, NASA's commercial cargo partners Orbital ATK and SpaceX launched more than 37,700 pounds of critical supplies to the International Space Station,



including crew supplies and equipment to support the hundreds of crucial science experiments and technology demonstrations aboard the research platform. With its splashdowns in the Pacific Ocean following three resupply missions, SpaceX Dragon capsules also returned more than 13,000 pounds of research and equipment.

built, in part, upon the hard work and dedication of the Orion team across the country and in Europe during 2017. This past year, the team surged in the construction and testing of the Orion spacecraft being manufactured for Exploration Mission-1 (EM-1) and made headway planning and building initial elements for the first mission with astronauts in the early 2020s.



New vehicles are on the horizon for station, with significant progress being made throughout last year. NASA advanced its goal to once again launch astronauts from Florida's Space Coast to the International Space Station as Commercial Crew Program providers Boeing and SpaceX moved forward on the Starliner and Crew Dragon spacecraft and systems, respectively. Boeing revealed its spacesuit design early in the year and conducted important parachute and qualification tests. SpaceX also unveiled its spacesuit and worked with NASA and the Air Force to refine its procedures to retrieve astronauts from the water following a mission to the space station. Sierra Nevada Corporation successfully completed a free-flight test of its Dream Chaser spacecraft, meeting the final milestone of a space act agreement for the Commercial Crew Program. The test also supported a milestone in preparation to carry cargo and science investigations to the space station under the agency's next-generation commercial resupply services contracts.

Expeditions also took a new leap forward to inspire the next generation of scientists, engineers and explorers with the Year of Education on Station, with astronauts and former classroom teachers Joe Acaba and Ricky Arnold—as well as their crewmates using their time in space to reach thousands of students around the world.

#### **Orion**

When Orion blasts into space and hurtles beyond the Moon on its first mission atop the Space Launch System rocket, the NASA team watching the spacecraft in action and those executing the mission in Houston may rest a little easier knowing the flight was



The Orion crew module for NASA's Exploration Mission-1 is secured in a workstation in the Neil Armstrong Operations and Checkout Building high bay at NASA's Kennedy Space Center in Florida.

Technicians integrated thousands of components into the crew module at NASA's Kennedy Space Center in Florida, where the spacecraft is being assembled, and performed several series of tests to ensure the spacecraft will work as expected during its

trip thousands of miles beyond the Moon during EM-1. Over the summer, the crew module was powered on for the first time to verify the health and status of Orion's core computers and power and data units. Functional testing in the fall confirmed Orion's systems communicate properly, and that commands can be sent during the length of a deep space mission. Technicians installed more than 180 blocks of Avcoat onto Orion's heat shield to help the crew module endure about 5,000 degrees Fahrenheit of heat during re-entry on EM-1—a temperature equal to half as hot as the surface of the sun and twice as hot as flowing lava.

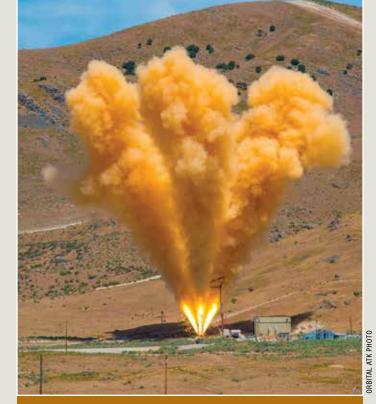
At the Denver-area facilities of Orion manufacturer Lockheed Martin, a structural test article of the spacecraft underwent a series of tests to verify Orion's structure is fit for its mission. Crew and service module tests have pushed, pulled, shocked and blasted the structures with noise to verify it will withstand the launch and ascent environment. The full Orion structural test article stack, complete with a Launch Abort System test article, will face rigorous testing in 2018.

The team also worked closely with ESA (European Space Agency) and its contractor Airbus on assembling, integrating and testing Orion's European Service Module—the powerhouse that will propel and power Orion in space and provide thermal control, water and oxygen for future crews—in preparation for its shipment to Kennedy in the middle of this year.

While work on the EM-1 vehicle has progressed, a host of engineers have also been preparing for Orion's first mission with crew. Testing in the Gulf of Mexico and inside Johnson Space Center's Space Vehicle Mockup Facility yielded critical information that is informing how crews can safely exit Orion upon splashdown and in potential emergency situations on the launch pad. Qualifying Orion's parachute system for crewed missions continued at pace, and Orion contractor Orbital ATK successfully fired the abort motor for Orion's Launch Abort System, a test critical in making sure that

Orion can protect crew when things don't go as planned.

The team also is gearing up for Ascent Abort-2, a 2019 test of the Launch Abort System's ability to pull the crew module to safety in the event of an abort during ascent to space. NASA's Langley Research Center in Hampton, Virginia, is currently building the crew module structure for the flight hardware, which will be sent to Johnson early in 2018 for outfitting with avionics, integration with a separation ring and more testing.



This past June, the abort motor for Orion's Launch Abort System fired for five seconds in a test at a facility of manufacturer Orbital ATK in Promontory, Utah.

This year will be extremely busy as engineers install Orion's heat shield, complete the EM-1 crew module and then integrate the service module with the crew module after it arrives from Europe. They will also continue a full slate of analyses on multiple elements and weld the crew module primary structure for EM-2. All this meticulous preparation will certify Orion for excursions in deep space—beyond where a spacecraft developed for missions with astronauts has ever been before.



## The women of curation hold our corner of the universe in their capable hands

TUCKED AWAY, NESTLED SAFE AND SOUND in Building 31 at NASA's Johnson Space Center are hundreds of pounds of extraterrestrial samples collected during the last five decades from NASA's past samplereturn missions. As part of the Astromaterials Research and Exploration Science Division at Johnson, the Astromaterials Curation Office is responsible for the documentation, preservation and preparation of samples brought back from beyond Earth's atmosphere.

The "rock"-star team in charge of these priceless samples, while a mixture of men and women, has a historically female component that some have called Johnson's own "hidden figures."

They are Johnson's "women of curation," comprised of both senior management with decades of experience and curators fresh in the field. Together, they preserve the seven collections currently housed at the center, including lunar, Genesis, Stardust, micro-particle impact, meteorites, cosmic dust and Hayabusa samples.

Andrea Mosie, a principal scientist who oversees the 842 pounds of Apollo lunar samples, currently has 42 years of service under her celestial belt.

"This is the only place in the world where you can actually work with samples of this size," Mosie said.

Mosie remembers when she was one of the only females working in her area of curation in the 70s.

"When I first got here, I found it funny because all the sample processors [in my area] were men," Mosie said. "But, over time, it gradually changed to all-female processors. I used to always say, 'All right, women are taking over!"

Curating alongside Mosie, but with Genesis solar wind samples, is Judy

Allton. Like Mosie, she also boasts more than four decades of curation experience. Allton started in 1974, where her first assignment was assisting a scientist in opening a previously unseen soil sample from Apollo 16.

"I remember coming to work that day well before daylight, and the full Moon was shining brightly," Allton said. "I remember thinking that I would get to see a new sample of the Moon up close."

The women of curation are grounded in their mutual admiration and respect for one another. Those with decades of experience and the new generation operate as one unit and learn from each other's individual experiences.

"These people are passionate about the planet we live on and our evolution from stardust," Allton said.

"We have a really close-knit group," Mosie added. "While we may disagree with one another, we always work together to come up with a solution."

These ladies defy stereotypes, whether accidentally or intentionally, blazing the trail for girls who dream of pursuing a career in science, technology, engineering or math—reminding us that the future belongs to all humankind.

To learn more about the Astromaterials Research and Exploration Science Division, visit:

http://www.nasa.gov/centers/johnson/astromaterials

Follow the division on Facebook, Twitter or Instagram @ NASAastromaterials.



The Astromaterials Research and Exploration Science Division trailblazing women of curation. Seated, from left: Melissa Rodriguez, Rachel Funk, Charis Hall Krysher, Carla Gonzalez, **Judy Allton and Carol** Schwarz. Standing, from left: Andrea Mosie, Kimberly **Allums-Spencer, Linda Watts** and Kathleen McBride.

Fun fact: Andrea Mosie, one of the trailblazers highlighted in the article, is pictured on the cover of this Roundup.



Permit No. 39



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See Roundup archives at: https://www.nasa.gov/roundup

To suggest a story idea, email: jsc-roundup@mail.nasa.gov

Catherine Ragin Williams Editor Logan Goodson Graphic Design Rocky Lind NASA Publication Manager

OR CURRENT RESIDENT

## Going 2.0

#### THE ROUNDUP ... IS REBORN.

Sure, this is the last print issue of the newsmagazine NASA Johnson Space Center team members have followed since the 1960s, but the content isn't going anywhere. In fact, it's only getting better. Enjoy more human-interest articles, wide-ranging types of digestible information (social media coverage, photo galleries, new and improved video content, infographics)—but on your computer, smartphone or tablet. The hub for all Johnson internal communications, we'll focus on connecting employees to the mission and telling the Johnson insider story.

Roundup is ...

- Roundup Today (formerly JSC Today): Your daily email filled with announcements and news about center events, news headlines, jobs, training, social happenings, Employee Resource Groups, Starport, clubs and more.
- Roundup Reads (formerly Roundup magazine and JSC Features):
   Your internal news website filled with timely articles on programs,
   projects and people at Johnson, as well as fun content like image
   qalleries and features, videos, social media and infographics.
- Roundup Direct (formerly JSC Director eNews): Your monthly e-news digest, linking to the center's top stories and events, straight from Johnson Director Ellen Ochoa.
- **Roundup Web (formerly InsideJSC):** Your go-to internal website, rebranded, with resources and tools at your fingertips.

#### Let's get digital, because the future is now.

One of the tenets of JSC 2.0 is **Do Things Differently.** We are ... for a few good reasons. More often than not, people are on the go—consuming what they want, when they want and on a tiny lit screen. Our *Roundup* products are being redesigned to be responsive to today's technology platforms. This focuses our resources on better serving the needs of the Johnson team with products that help employees

and retirees do their best as the American space program's most knowledgeable ambassadors. Plus, it's a business best practice that will ensure Johnson operates as a well-informed center with a strong sense of community.

Hello, 2.0! It's a new year—and a new chapter for Roundup.



To learn more and subscribe: https://www.nasa.gov/roundup